

CITRUS IN THE GARDEN



Ottillia “Toots” Bier
University of California, Riverside
Citrus Variety Collection











Origin of Citrus

- Citrus originated in China and India.
- The three ancestral species are:
 - Pummelo
 - Citron
 - Mandarin



Choosing your varieties:

- What do you like?
- What is your climate?
- What is your garden site like?

What do you like?

- Only grow what you like to eat.
- Choose the most costly varieties first.
- Select varieties for year-round production.
- Choose varieties that store well on the tree.

What is your climate?

- Most citrus requires a frost-free location.
- Many citrus varieties require high heat to sweeten satisfactorily.



What is your garden site like?

- Citrus requires a fertile well-drained soil.
- Citrus requires a sunny wind-free location.
- Citrus requires space for the mature tree.



Planting

- Dig a hole the same depth as the rootball
- and twice as wide.
- Soil amendments are usually not needed.
- Don't plant too deeply.
- Build a shallow soil basin.
- Stake as low as possible so trunk can flex.
- Protect the trunk from sunburn.

Methods of Irrigation

- Hose
- Sprinklers
- Drip system
- Micro-sprayers



Irrigation Frequency, Volume and Duration (how often, how much, how long)

- Depends upon your soil and weather conditions
 - Sandy soil needs water more often, higher volume emitters, for a shorter length of time
 - Clay soil needs water less often, low volume emitters, for a longer length of time
 - Loam soil is intermediate in all aspects

Flowering and Fruiting

- Most citrus trees flower late winter to spring.
- A mature orange tree will have 200,000 flowers but mature only 400 fruit.
- Rind color is no indication of ripeness.
- The longer a fruit hangs on the tree, the sweeter it gets.

Fertilization

- Newly-planted trees- 2 tbs citrus fertilizer in May, June, and July
- 2nd year- 1/4 lb actual nitrogen divided into two applications February and May
- 3rd year- 1/2 lb actual nitrogen divided into two applications February and May
- 4th year- 3/4 lb actual nitrogen divided into two applications February and May

Calculating Actual Nitrogen

- Bag says 10-4-10 which means contents is 10% nitrogen, 4% phosphorus, 10% potash.
- Bag weighs 20 pounds.
- 10% of 20 pounds is 2 pounds.
- Therefore, the entire 20 pound bag of fertilizer contains 2 pounds actual nitrogen.
- To get $\frac{1}{4}$ pound actual nitrogen you would need to apply $2\frac{1}{2}$ pounds of fertilizer.

Fertilizing container citrus

- Container citrus needs more fertilizer than citrus growing in the ground.
- Apply granular or liquid fertilizer at reduced strength every month from February to August or use a controlled release fertilizer such as Osmocote.

Micronutrients

- Citrus is especially susceptible to deficiencies of iron, zinc, and manganese.
- Main symptom is interveinal chlorosis.
- Make a foliar application of micronutrients at 3/4 of leaf expansion (April to May).
- Repeat later in summer if needed.

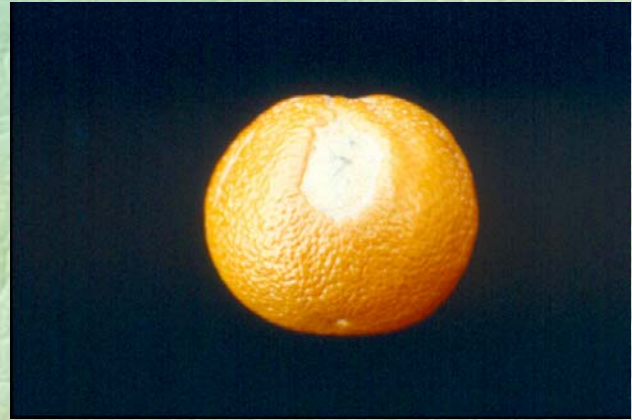
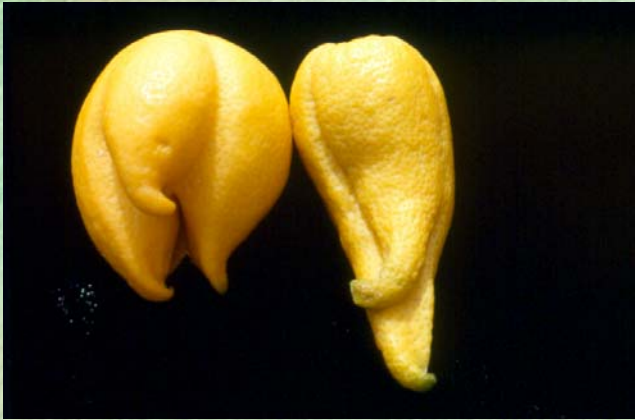
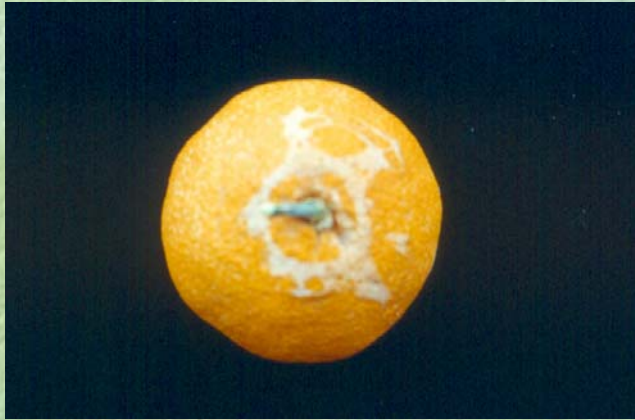


Insect Pests

- Aphids
- Thrips
- Mealy bug
- Whitefly
- Ants
- Mites
- Scales



Common Pest Damage



Diseases

- Tristeza
- Phytophthora



Other Problems

- Gophers
- Snails
- Round-up damage
- Mechanical damage
- Fruit splitting
- Poor or irregular fruit-set



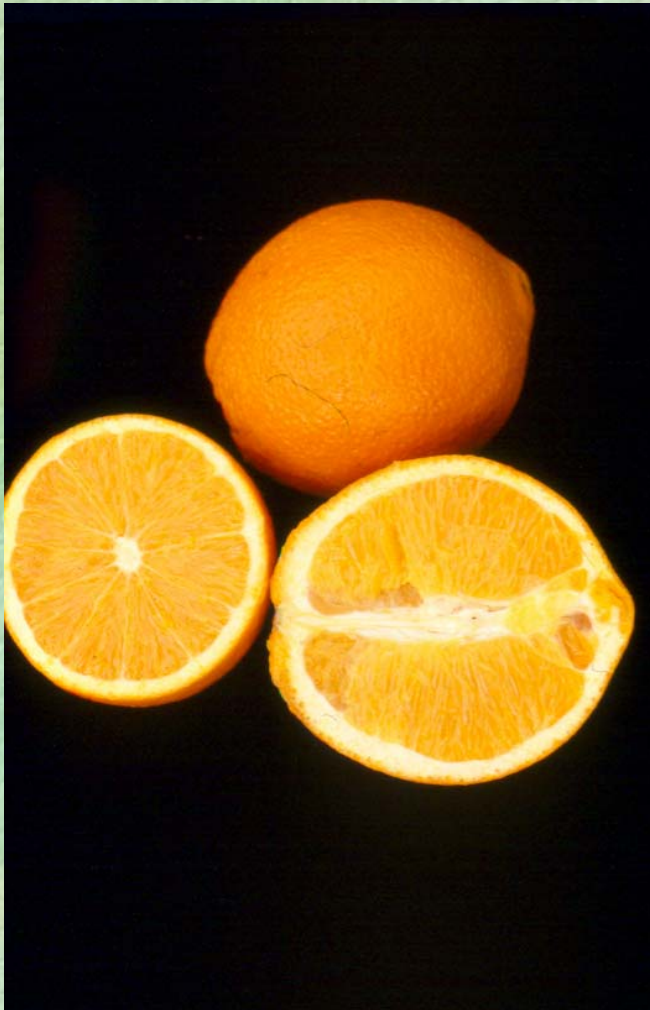
Pruning

- Pruning is usually not needed.
- Exceptions:
- Lemons may need to be pruned back about 20% each year to keep them tidy.
- Mandarins may require pruning of weak inside growth to open tree to light and air.
- Remove all suckers from rootstock.
- Sterilize tools before pruning each tree.

Selected Varieties



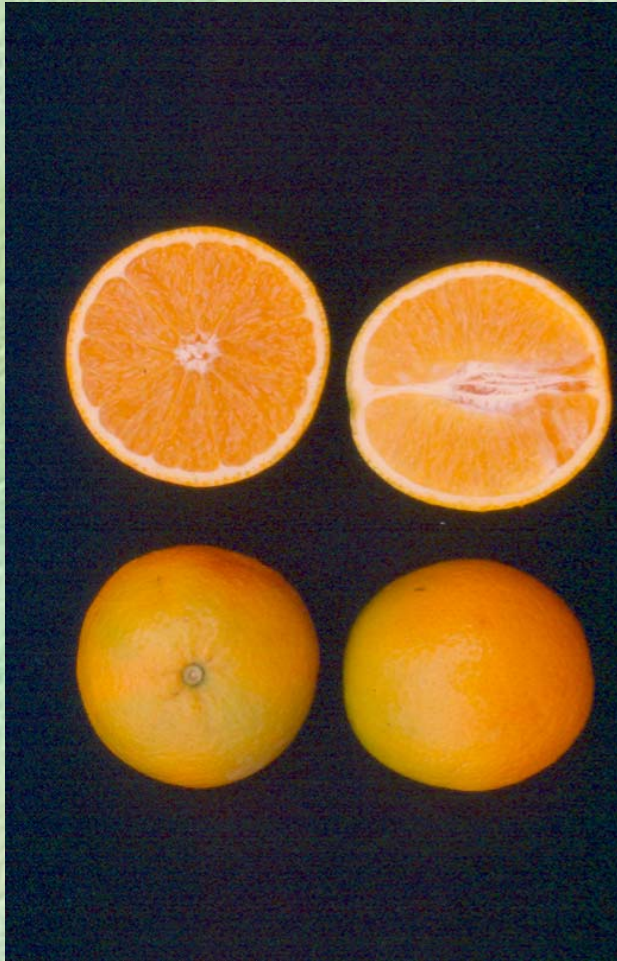
Navel oranges



- Fukumoto
- Washington
- Cara Cara
- Lane Late

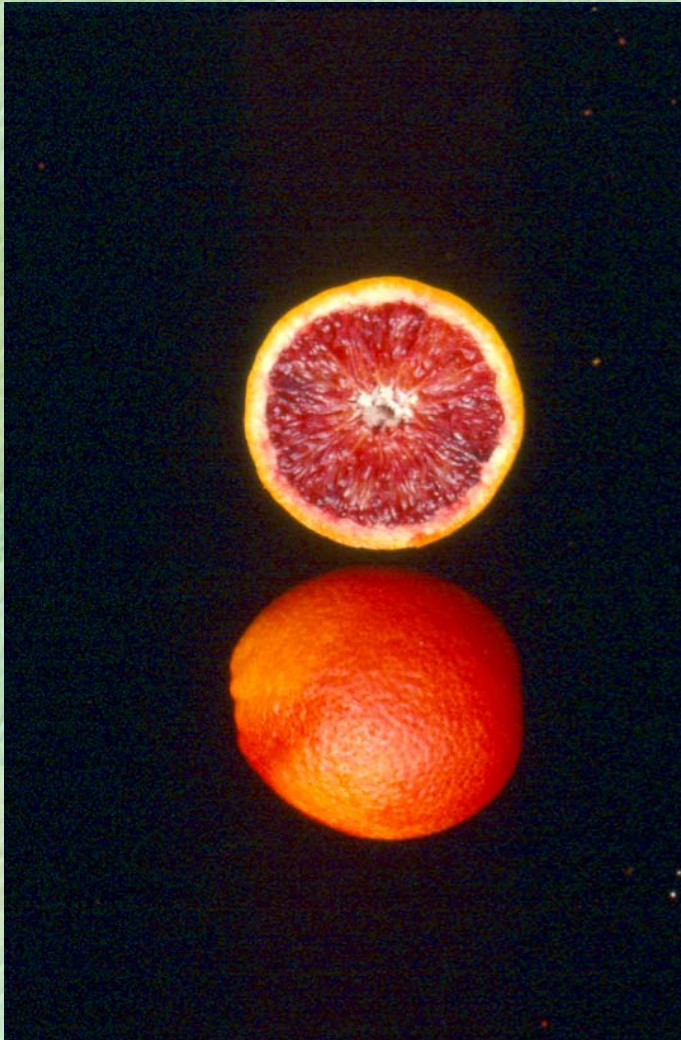


Sweet Oranges



- Trovita
- Midnight Valencia
- Delta Valencia

Pigmented Oranges



- Moro
- Tarocco
- Bream Tarocco
- Sanguinelli
- Smith Red Valencia
- Vainiglia Sanguigno



Sour Oranges



- Seville
- Chinotto
- Bouquet de Fleurs



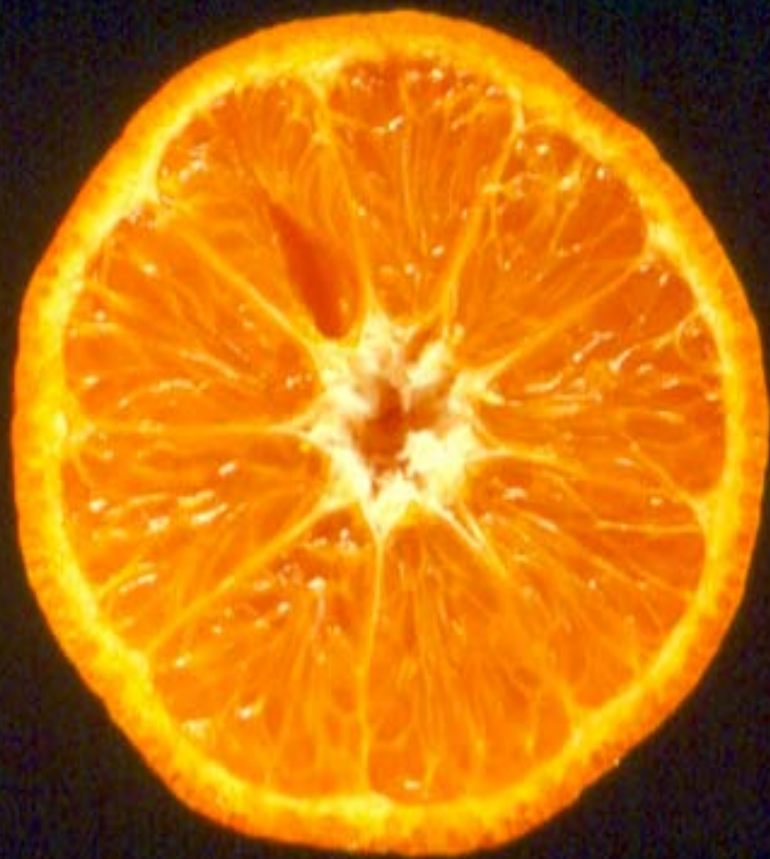
Mandarin Oranges



- Seedless Kishu
- Satsuma
- Clementine
- Pixie
- Shasta Gold
- Tahoe Gold
- Yosemite Gold
- Gold Nugget
- Tango







Grapefruit and pummelo types



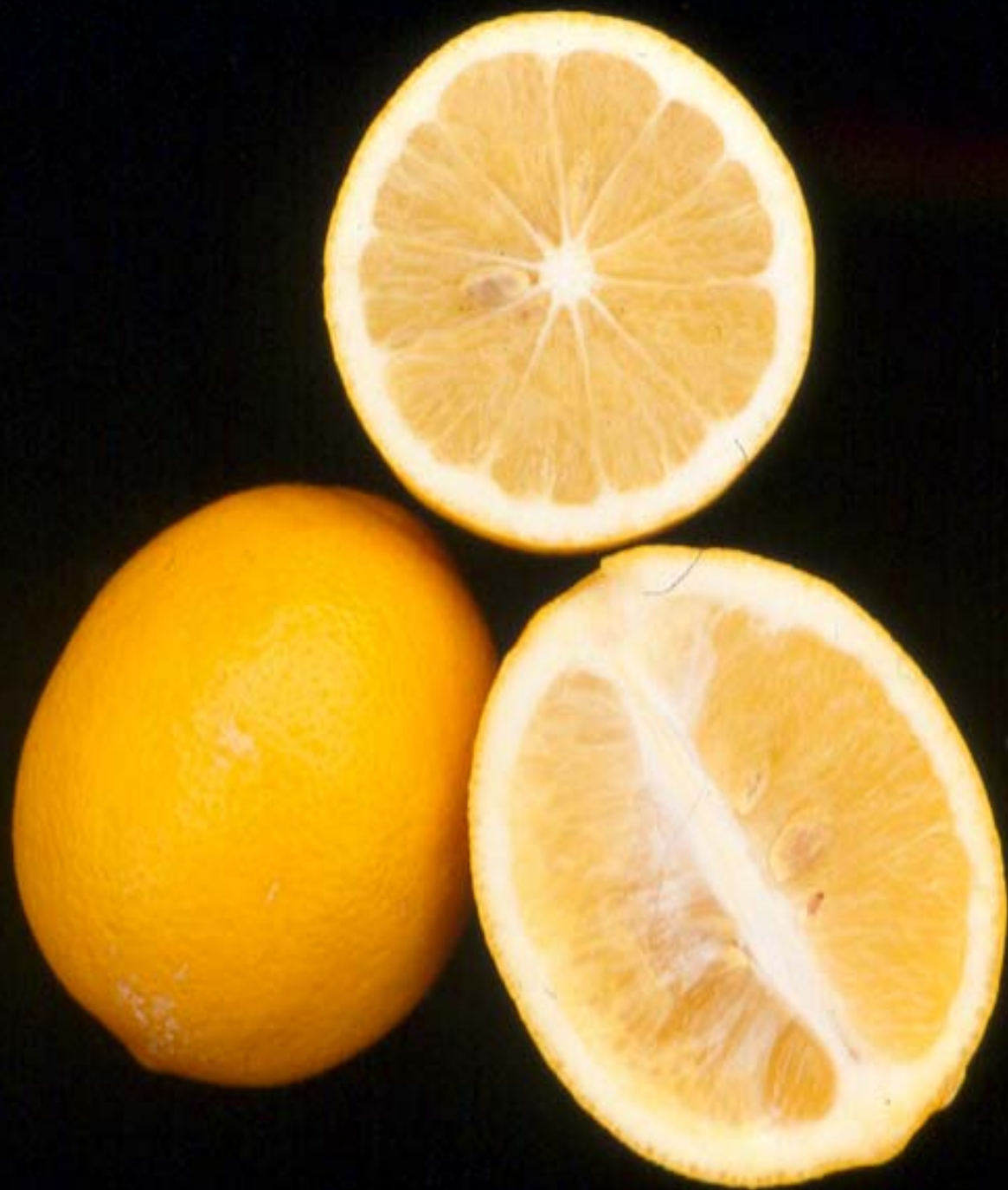
- Oroblanco
- Melogold
- Cocktail
- Star Ruby
- Rio Red
- Chandler
- Reinking



Lemons and Limes



- Pink Lemonade lemon
- Meyer lemon
- Bearss lime
- Mexican lime
- Sweet lime
- Limequat











Exotics



- Sudachi
- Yuzu
- Calamondin
- Kumquat
- Citrus hystrix
- Bergamot
- Buddha's Hand
- Etrog













California



Sunshine

PACKED AND SHIPPED BY
MENTONE
HEIGHTS